

In an implantable pacemaker the pacing rate is adjusted in synchrony with the respiration of the patient to thereby mimic respiratory sinus arrhythmia noted in healthy patients. Preferably, first a metabolic demand parameter pacing parameter is derived from a metabolic demand of the patient, such as minute volume, and then this parameter is adjusted using a respiration detector. The adjustment may be made dependent on the exercise level of the patient, his age and his physical fitness.